

# TI-73 / TI-83 Plus Area Formulas

## How To...

---

- Start and Quit the Application
- Use On-screen Options
- View Definitions and Area Formulas
- Take the Quiz
- Delete the Application

## More Information

---

- Error Recovery

## Important Information

Texas Instruments makes no warranty, either expressed or implied, including but not limited to any implied warranties of merchantability and fitness for a particular purpose, regarding any programs or book materials and makes such materials available solely on an “as-is” basis.

In no event shall Texas Instruments be liable to anyone for special, collateral, incidental, or consequential damages in connection with or arising out of the purchase or use of these materials, and the sole and exclusive liability of Texas Instruments, regardless of the form of action, shall not exceed any applicable purchase price of this item or material. Moreover, Texas Instruments shall not be liable for any claim of any kind whatsoever against the use of these materials by any other party.

Graphing product applications (Apps) are licensed. See the terms of the [license agreement](#) for this product.

TI-GRAPH LINK and TI Connect are trademarks of Texas Instruments. All other trademarks are the property of their respective owners.



## What is the Area Formulas Application?

The Area Formulas application reviews the definitions and the area formulas for the rectangle, square, parallelogram, triangle, trapezoid, and circle. The development of the formulas is shown graphically, and several examples of the calculation of the area are given for each shape. A 15-question multiple-choice quiz—you can choose between two levels of difficulty—provides practice at applying the formulas. Immediate feedback is given after each problem is answered, and the high score is saved.

The Area Formulas application is a concept application that TI wants to share with our customers, educators, and students before the product definition and testing are complete. It is an alpha software version, and as such, it may contain imperfections, or the coding may be incomplete.

TI invites your feedback concerning the functionality and educational value of the Area Formulas application. Please send your comments and questions to [concept@list.ti.com](mailto:concept@list.ti.com).

# What You Need

**Note** In this user guide, any information that pertains to the TI-83 Plus also pertains to the TI-83 Plus Silver Edition, unless otherwise noted.

| Hardware and software   | Notes  |
|---|--|
| <p>TI-73 with version 1.50 or higher of the Graph Explorer software<br/>—or—<br/>TI-83 Plus or TI-83 Plus Silver Edition with version 1.13 or higher of the operating system software</p>                                 | <p>You can download a free copy of the latest Graph Explorer or operating system software from <a href="http://education.ti.com/softwareupdates">education.ti.com/softwareupdates</a>. Follow the link to Operating Systems.</p> |
| <p>Computer with Windows® 95/98/2000/XP, Windows NT®, or Apple® Mac® OS 7.1 or higher installed</p>   |  |
| <p>TI-GRAF LINK™ computer-to-calculator cable</p>   | <p>If you do not have this cable, call your distributor, or order the cable from TI's <a href="#">online store</a>.</p>  |
| <p>TI-GRAF LINK software that is compatible with the TI-73 or the TI-83 Plus<br/>—or—<br/>TI™ Connect software (available at the end of 2001). TI Connect works with all supported models of TI graphing calculators.</p> | <p>You can download free copies of TI-GRAF LINK and TI Connect from <a href="http://education.ti.com/softwareupdates">education.ti.com/softwareupdates</a>. Follow the link to Connectivity Software.</p>                        |

# Where to Find Installation Instructions

Detailed instructions on installing this and other applications are available at [education.ti.com/guides](http://education.ti.com/guides). Follow the link to Flash installation instructions.

## Getting Help

The instructions in this guidebook are only for this application. If you need help using the TI-73 or TI-83 Plus, refer to its comprehensive guidebook at [education.ti.com/guides](http://education.ti.com/guides).

TI invites your feedback concerning the functionality and educational value of the Area Formulas application. Please send your comments and questions to [concept@list.ti.com](mailto:concept@list.ti.com).

# Starting and Quitting the Application

## Starting the Application

1. Press **APP** to display the list of applications on your calculator.
2. Select **AreaForm**. The application's information screen is displayed.
3. Press any key to continue. The programmer's screen is displayed.
4. Press any key to continue. The SELECT A MODE menu is displayed.

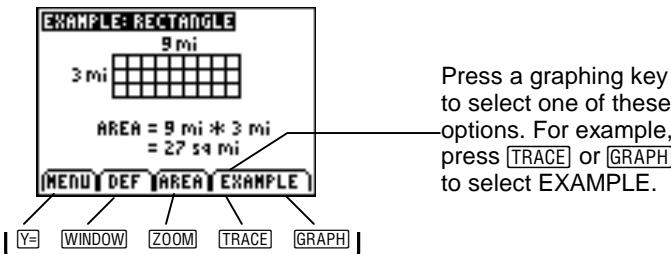
## Quitting the Application

If you are in the middle of an activity, press **2nd** **QUIT** repeatedly until you get back to the main menu.

To quit the application, select **QUIT** from the application's main menu, or press **2nd** **QUIT**.

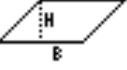
# Using On-screen Options

Many of the screens in the Area Formulas application display options across the bottom of the screen that you use to navigate through the application. To select one of these options, press the graphing key directly below the option.



# Viewing Definitions, Formulas, and Examples

To display information about shapes, select **DEFINITIONS & FORMULAS** from the SELECT A MODE menu. The SELECT A SHAPE menu is displayed.

| To display this information... | Select this option:   | Display   |
|--------------------------------|---|---|
| Shape definition               | Shape name from the SELECT A SHAPE menu<br>—or—<br>DEF from the AREA, EXAMPLE, or WHY? screen | <b>DEFINITION: PARALLELOGRAM</b><br><br>A PARALLELOGRAM IS A QUADRILATERAL WITH OPPOSITE SIDES PARALLEL.<br><b>[MENU] [AREA] [EXAMPLE]</b> |
| Area formula for the shape     | <b>AREA</b> from the shape DEFINITION screen  | <b>AREA: PARALLELOGRAM</b><br>H = HEIGHT<br>B = BASE<br><br>AREA = H * B sq units<br><b>[MENU] [DEF] [EXAMPLE] [WHY?]</b>                 |

---

To display this information...

Select this option:

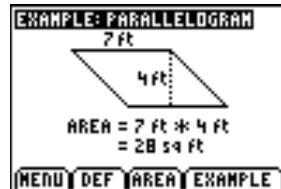
Display

---

An example of calculating a shape's area

**EXAMPLE** from the AREA screen or the DEFINITION screen

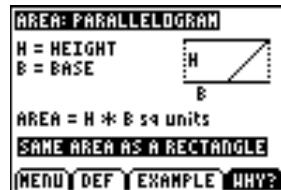
Tip: Select **EXAMPLE** again to display a different example for the same shape.



Explanation of the area formula (not available for all shapes)

**WHY?** from the AREA screen

Tip: Select **WHY?** again to return to the original AREA screen.



---

To view information about another shape, select **MENU** to return to the SELECT A SHAPE menu, and then select another shape.

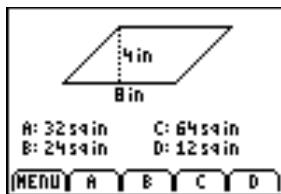
Tip

Press **2nd [QUIT]** to return to the previous menu.

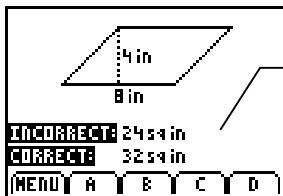
## Taking the Quiz

The Area Formulas quiz contains two levels. Level one assesses your ability to compute the area of basic shapes. Level two is a bit more challenging, assessing your ability to compute the area of irregularly shaped objects. Each quiz consists of 15 problems. Each correct answer in level one is worth 12 points. Each correct answer in level two is worth 25 points. Incorrect answers are worth 0 points in both levels.

1. Select **AREA QUIZ** from the **SELECT A MODE** menu. The **SELECT A LEVEL** screen is displayed.
2. Use the arrow keys to highlight a level, and then press **ENTER**. The first problem is displayed.

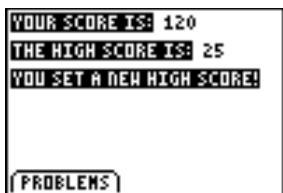


3. Calculate the area and then select the letter that corresponds to your answer. Your answer is checked, and then the next problem is displayed.



After you select an answer, either “CORRECT!” or your answer and the correct answer are displayed for a few seconds before the next problem is displayed.

At the end of the quiz, your score and the high score are displayed. Select **PROBLEMS** to return to the SELECT A LEVEL screen.



**Tip**

If you need to end the quiz before you have completed all 15 problems, press **CLEAR** to display your current score. The score is reset to 0 when you return to the quiz.

# Deleting the Application from Your Calculator

## TI-73

1. Press **[2nd] [MEM]** to display the MEMORY menu.
2. Select **Delete**.
3. Select **Apps**.
4. Move the cursor to **AreaForm**.
5. Press **[ENTER]**. A confirmation message is displayed.
6. Select **Yes** to delete the application.

## TI-83 Plus

1. Press **[2nd] [MEM]** to display the MEMORY menu.
2. Select **Mem Mgmt/Del**.
3. Select **Apps**.
4. Move the cursor to **AreaForm** and press **[DEL]**. A confirmation message is displayed.
5. Select **Yes** to delete the application.

# Installation Error Messages

## Low Battery

Do not attempt to download a Flash application if the low-battery message appears on the home screen. Low battery indication is shown on the initial screen. If you receive this error during an installation, change the batteries before trying again.

## Invalid Signature or Certificate

Either this calculator does not have a certificate to run the application, or electrical interference caused a link to fail. Try to install the application again.

## Error in Xmit

This problem is usually associated with the unit-to-unit cable and its connection between the calculators. Make sure the cable is firmly inserted in the link port of each calculator.

## Link Transmission Error

This error indicates that the TI-GRAF LINK™ software or TI™ Connect software is unable to communicate with the calculator. The problem is usually associated with the TI-GRAF LINK cable and its connection to the calculator or to the computer.

- Make sure the cable is firmly inserted in the calculator's link port and the computer's serial or USB port.
- Verify that the correct cable type is selected in the software link settings.
- Verify that the correct communications port (Com Port) is selected in the software link settings. (This step does not apply if you are using the USB port and TI Connect).

If this does not correct the problem, try a different TI-GRAF LINK cable and restart your computer.

## Archive Full

This error occurs when the TI-83 Plus does not have sufficient memory for the application. In order to make room for another application, you must delete an application or archived variables from the TI-83 Plus. Before you delete an application from the TI-83 Plus, you can save it on your computer using TI-GRAF LINK™ software for the TI-83 Plus or TI™ Connect software. You can reload it to the TI-83 Plus later using the TI-GRAF LINK software or TI Connect software.

## Memory Error

This error occurs when the TI-73 does not have sufficient memory for the application. In order to make room for another application, you must delete an application from the TI-73. Before you delete an application from the TI-73, you can save it on your computer using TI-GRAF LINK software for the TI-73 or TI Connect software. You can reload it to the TI-73 later using TI-GRAF LINK software or TI Connect software.

## Other Errors

See Appendix B in the [TI-73 manual](#) or pages B-6 through B-10 in the [TI-83 Plus manual](#) for information about the specific error.

# Checking Version Numbers and Free Space

## Verify Operating System Version and ID Number

The Area Formulas application is compatible with TI-73 Graph Explorer software version 1.50 and higher or the TI-83 Plus operating system 1.13 and higher.

To verify your operating system version number:

1. From the home screen, press **[2nd] [MEM]**.
2. Select **ABOUT**.

The operating system version number is displayed below the product name and has the format x.yy. The ID number appears on the line below the product number.

## Verify Flash Application Version

The version number appears on the information screen below the application name. To display the information screen, do one of the following:

- Press **[APPS]**, and then select **AreaForm**.
- or—
- Select **INFO** from the application's main menu.

## Check Amount of Flash Application Free Space

### TI-73

1. From the home screen, press **[2nd] [MEM]**.
2. Select **Check Apps**.

The Area Formulas application requires one free space to load the application.

For more information about memory and memory management, refer to the [TI-73 manual](#).

## TI-83 Plus

1. From the home screen, press **[2nd] [MEM]**.
2. Select **Mem Mgmt/Del**.

The Area Formulas application requires at least 16,535 bytes of ARC FREE (Flash), or one space, to load the application.

For more information about memory and memory management, refer to the [TI-83 Plus manual](#).

# CONCEPT APPLICATION EVALUATION LICENSE AGREEMENT

## (Including Preview, Prototype, and Demo Apps)

BY DOWNLOADING THE SOFTWARE AND/OR DOCUMENTATION YOU AGREE TO ABIDE BY THE FOLLOWING PROVISIONS.

1. **LICENSE:** Texas Instruments Incorporated ("TI") grants you a license to use and copy the software program(s) ("License Materials") contained on this diskette/CD/web site. You, and any subsequent user, may only use the Licensed Materials on Texas Instruments calculator products.
2. **RESTRICTIONS:** You may not reverse-assemble or reverse-compile the Licensed Materials. You may not sell, rent, or lease copies that you make.
3. **COPYRIGHT:** The Licensed Materials are copyrighted by TI or the third party licensor. Licensee agrees that he/she will not delete the copyright notice, trademarks or protective notices from the Licensed Materials or copies made during installation.
4. **SUPPORT:** The Licensed Materials are provided by TI with the understanding that only limited support for this concept application may be available from TI.
5. **TESTING:** Licensee acknowledges that he/she understands that TI has not in all cases subjected concept applications to rigorous testing and that the concept application may cause problems with his/her calculator, including its use in any kind of shared environment. Further, it is possible for a concept application to cause calculator crashes or lock ups which may be difficult to recover from. You are advised that use of the concept application is AT YOUR OWN RISK.
6. **WARRANTY:** TI does not warrant that the Licensed Materials will be free from errors or will meet your specific requirements.

**THE LICENSED MATERIALS ARE MADE AVAILABLE "AS IS" TO LICENSEE.**

7. **LIMITATIONS: TI MAKES NO WARRANTY OR CONDITION, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, REGARDING THE LICENSED MATERIALS.**

**IN NO EVENT SHALL TI, ANY THIRD PARTY LICENSOR, OR TI'S SUPPLIERS BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS, LOSS OF USE OR DATA, OR INTERRUPTION OF BUSINESS, WHETHER THE ALLEGED DAMAGES ARE LABELED IN TORT, CONTRACT OR INDEMNITY.**

**SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY.**

8. **RESTRICTED RIGHTS:** The Licensed Materials are provided with Restricted Rights. Use, duplication or disclosure by the United States Government is subject to restrictions as set forth in subparagraph [c](1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or in subparagraph [c](1) and (2) of the Commercial Computer Software - Restricted Rights at 48 CFR 52.227-19, as applicable.

# Page Reference

This PDF document contains electronic bookmarks designed for easy on-screen navigation. If you decide to print this document, please use the page numbers below to find specific topics.

|  |    |
|--|----|
| Important Information.....                             | 2  |
| What is the Area Formulas Application? .....           | 3  |
| What You Need .....                                    | 4  |
| Where to Find Installation Instructions .....          | 5  |
| Getting Help .....                                     | 5  |
| Starting and Quitting the Application.....             | 6  |
| Using On-screen Options .....                          | 7  |
| Viewing Definitions, Formulas, and Examples.....       | 8  |
| Taking the Quiz.....                                   | 10 |
| Deleting the Application from Your Calculator .....    | 12 |
| Installation Error Messages .....                      | 13 |
| Checking Version Numbers and Free Space .....          | 16 |
| CONCEPT APPLICATION EVALUATION LICENSE AGREEMENT ..... | 19 |